

GUJARAT TECHNOLOGICAL UNIVERSITY**B. Pharm. – SEMESTER – III • EXAMINATION – SUMMER 2013****Subject Code: 230003****Date: 12-06-2013****Subject Name: Pharmaceutical Chemistry - III****Time: 10.30 am - 01.30 pm****Total Marks: 80****Instructions:**

- 1. Attempt any five questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**

- Q.1**
- (a) What are different methods used to determine molecular weight of organic compound? Discuss any two methods in detail. **06**
- (b) Discuss in detail about method used for quantitative determination of Carbon and Hydrogen. **05**
- (c) Write a note on Molecular Orbital Theory. Differentiate bonding and antibonding orbitals **05**
- Q.2**
- (a) Resonance and Hyperconjugation influence the stability of organic molecule. How? Discuss with suitable example. **06**
- (b) Which are the different properties of molecule influence by polarity? Discuss with suitable example. **05**
- (c) Comment on following **05**
- i. All Lowrie-Bronsted acids and bases can be Lewis acids and bases but all Lewis acids and bases cannot be Lowrie-Bronsted acids and bases.
- ii. Alkynes are more acidic than alkenes.
- Q.3**
- (a) How Carbanion and Carbon free radical are generated? Discuss about their stability and reactions. **06**
- (b) Chlorofluorocarbons (CFC) are dangerous for the environment. How? Discuss in detail. **05**
- (c) Write a note on halogenation of methane. What are the inhibitors of this reaction? **05**
- Q.4**
- (a) Define conformation. Draw different conformation of 1,2-dibromoethane. Discuss about stability of each conformation. **06**
- (b) Give chemical structure and IUPAC name of following **06**
Neopentane, Isopropanol, Allylbromide, Vinylchloride
- (c) Write a note on Kjeldahl's method of Nitrogen estimation. **04**
- Q.5**
- (a) What are different types of nucleophilic substitution reactions? Write in detail about each. **06**
- (b) Discuss in detail about Grignard reaction for the synthesis of alkane and alcohols. **05**

- (c) Give following conversions with suitable example **05**
1. Alkyl halide to alkene
 2. Alkene to diol
 3. Alkyne to syn alkene
- Q. 6**
- (a) Discuss about different types of elimination reaction with suitable example. **06**
- (b) Define Geometrical isomers. What are different methods used to define configuration of geometrical isomers. **05**
- (c) Discuss in detail about different type of dienes with their stability. **05**
- Q.7**
- (a) What is antiMarkovnikov addition? Discuss in detail about the method for synthesis of alcohol involving antiMarkovnikov addition. **06**
- (b) Write a note on Sigmatropic reaction. **05**
- (c) What are ethers? What is its importance in organic chemistry. Give detail account on Wiliamsons synthesis **05**
